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Inorganic Fertilizer Materials and Related Products

1987

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SUMMARY OF FINDINGS

United States production of sulfuric acids in 1987 totaled 39,234.7 thousand short tons (100 percent H_2SO_4), approximately 9 percent above the 1986 figure of 35,993.4 thousand short tons. Value of shipments (including interplant transfers) in 1987 amounted to $561.0 million, as compared to the 1986 value of $583.3 million.

Value of shipments of synthetic ammonia, nitric acid, and ammonium compounds decreased less than one percent to $2,019.8 million in 1987 from the 1986 level of $2,039.1 million. Shipments of urea increased 20 percent to $469.4 million in 1987, and shipments of phosphoric acid increased nearly 7 percent to $1,152.1 million.

Production of superphosphate and other phosphatic fertilizer materials for 1987 increased 16 percent to 7,105.0 thousand short tons (100 percent P_2O_5). Value of shipments amounted to $2,060.1 million in 1987, as compared to the 1986 value of $1,760.4 million.

The statistics in this report are based on surveys of producers of sulfuric acid and other inorganic fertilizer chemicals. The figures represent total production and shipments by U.S. manufacturers of inorganic fertilizer materials. Estimates are included for companies whose reports were not received in time for tabulation.

A description of the survey methodology and related information appears on page 14.

Prior to 1985, figures for the nitrogenous and phosphatic fertilizer materials were published in Current Industrial Report MA28A, *Inorganic Chemicals.*

Table 1. SHIPMENTS AND PRODUCTION OF SULFURIC ACID: 1983 TO 1987

(Quantity in thousands of short tons of 100% H_2SO_4; value in thousands of dollars)

Product code	Product description	Year	Total production	Total shipments, including interplant transfers		Commercial shipments[1]		Consumed in producing plant
				Quantity	Value (f.o.b. plant)	Quantity	Value (f.o.b. plant)	
28193 --	Sulfuric acid, gross (new and fortified)	1987	39,234.7	11,299.0	561,022	10,048.0	507,521	28,147.1
		1986	35,993.4	10,884.4	538,303	9,907.0	490,046	25,279.6
		1985	39,889.0	11,810.5	563,904	10,651.8	509,892	28,214.6
		1984	41,892.7	12,349.3	601,794	10,941.8	535,988	30,042.2
		1983	37,458.8	11,353.7	577,400	10,189.0	514,527	26,408.0
28193 11	Oleum under 40 percent	1987	1,432.1	888.5	r62,492	837.9	r59,035	464.0
		1986	1,369.2	866.1	r59,990	826.7	r57,060	421.0
		1985	1,357.4	914.7	53,567	868.4	51,407	450.1
		1984	1,333.2	872.5	54,857	807.4	51,262	455.8
		1983	1,298.1	848.2	55,258	778.9	51,322	448.8
28193 15	Oleum 40 percent	1987	45.8	(D)	(D)	(D)	(D)	(D)
		1986	62.0	(D)	(D)	(D)	(D)	(D)
		1985	85.7	(D)	(D)	(D)	(D)	(D)
		1984	90.7	(D)	(D)	(D)	(D)	(D)
		1983	78.3	(D)	(D)	(D)	(D)	(D)
28193 17	Oleum over 40 percent	1987	163.2	(D)	(D)	(D)	(D)	(D)
		1986	157.2	(D)	(D)	(D)	(D)	(D)
		1985	148.6	(D)	(D)	(D)	(D)	(D)
		1984	174.5	(D)	(D)	(D)	(D)	(D)
		1983	119.4	(D)	(D)	(D)	(D)	(D)
28193 31	Other than oleum[2]	1987	37,593.6	10,240.7	484,818	9,048.8	436,250	27,661.9
		1986	34,403.0	9,848.3	467,372	8,917.1	427,377	24,809.4
		1985	38,340.4	10,732.1	496,981	9,621.8	446,234	27,699.7
		1984	40,294.5	11,211.2	533,527	9,968.8	471,316	29,497.4
		1983	35,981.0	10,406.5	513,123	9,313.4	454,194	25,860.0
28193 --	Sulfuric acid produced through decomposition of alkylation acid and other spent acids, including sulfuric acid sludge	1987	3,380.1	(X)	(X)	(X)	(X)	(X)
		1986	3,284.1	(X)	(X)	(X)	(X)	(X)
		1985	3,033.0	(X)	(X)	(X)	(X)	(X)
		1984	1,349.7	(X)	(X)	(X)	(X)	(X)
28193 71	Spent acid used for fortification in contact units not included in above figures[3]	1987	(X)	(X)	(X)	(X)	(X)	180.6
		1986	(X)	(X)	(X)	(X)	(X)	191.7
		1985	(X)	(X)	(X)	(X)	(X)	164.0
		1984	(X)	(X)	(X)	(X)	(X)	136.0
		1983	(X)	(X)	(X)	(X)	(X)	134.3

(D) Data withheld to avoid disclosing figures for individual companies. (X) Not applicable.

r Revised by 5 percent or more from previously published figures.

[1] Represents total shipments minus interplant transfers.
[2] Figures for other than oleum include chamber process acid.
[3] Spent acid fortified by the addition of sulfur trioxide.

Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233, or call Gisele B. Hoffman, (301) 763-7807.

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Table 2. PRODUCTION AND SHIPMENTS OF INORGANIC FERTILIZER CHEMICALS: 1983 TO 1987

(Quantity in short tons; value in thousands of dollars)

Product code	Chemical and basis	Year	Total production (quantity)	Total shipments including interplant transfers		Interplant transfers	
				Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant
28731 --	Synthetic ammonia, nitric acid, and ammonium compounds	1987	(X)	(X)	2,019,843	(X)	(X)
		1986	(X)	(X)	2,039,088	(X)	(X)
		1985	(X)	(X)	3,024,818	(X)	(X)
		1984	(X)	(X)	3,101,667	(X)	(X)
		1983	(X)	(X)	2,494,963	(X)	(X)
28731 11	Nitric acid (100% HNO_3)	1987	[1]7,225,127	600,237	69,067	109,161	12,482
		1986	[1]6,736,261	513,915	61,196	(D)	(D)
		1985	[1]7,645,113	565,376	64,319	(D)	(D)
		1984	[1]7,797,851	642,035	80,892	(D)	(D)
		1983	[1]6,967,906	524,263	68,615	126,234	16,734
	Ammonia, synthetic anhydrous (100% NH_3)[2]	1987	16,094,683	9,749,299	959,404	1,988,625	184,903
		1986	14,487,469	8,789,301	899,747	2,041,040	192,716
		1985	17,318,972	10,516,245	1,468,566	1,812,178	246,314
		1984	16,701,603	9,535,546	1,453,171	1,855,702	179,209
		1983	13,951,861	8,297,024	1,152,121	1,651,189	196,475
28731 30	Fertilizer use	1987	14,618,329	8,828,007	858,705	1,454,395	128,454
		1986	13,201,886	7,991,020	818,346	1,571,337	150,484
		1985	15,844,242	9,585,009	1,329,043	1,372,059	179,102
		1984	15,081,226	8,495,885	1,305,096	1,349,807	123,168
		1983	12,273,243	7,149,505	1,003,909	1,240,783	154,650
28731 32	Other uses	1987	1,476,354	921,292	100,699	534,230	56,449
		1986	1,285,583	798,281	80,901	469,703	42,232
		1985	1,474,730	931,236	139,523	440,119	67,212
		1984	1,620,377	1,039,661	148,075	500,895	56,041
		1983	1,678,618	1,147,319	148,212	410,406	39,825
	Ammonium compounds:						
	Nitrate:						
28731 50	Original solution (100% NH_4NO_3)[3]	1987	6,546,683	(X)	(X)	(X)	(X)
		1986	6,091,125	(X)	(X)	(X)	(X)
		1985	7,149,230	(X)	(X)	(X)	(X)
		1984	7,164,620	(X)	(X)	(X)	(X)
		1983	6,240,039	(X)	(X)	(X)	(X)
	Fertilizer use (100% NH_4NO_3):						
	Solution	1987	2,815,377	(D)	(D)	-	-
		1986	r2,750,233	(D)	(D)	(D)	(D)
		1985	3,421,668	(D)	(D)	(D)	(D)
		1984	2,980,199	528,710	61,997	(D)	(D)
		1983	2,515,983	550,118	57,777	(D)	(D)
28731 52	Solution produced for sale	1987	266,386	208,247	23,829	-	-
		1986	294,828	250,300	28,711	-	-
		1985	394,672	353,076	45,110	-	-
		1984	385,388	332,081	38,029	-	-
		1983	482,192	400,669	42,993	-	-
28731 54	Solution produced for consumption	1987	r2,548,991	(D)	(D)	-	-
		1986	r2,455,405	(D)	(D)	(D)	(D)
		1985	3,026,996	(D)	(D)	(D)	(D)
		1984	2,594,811	196,629	23,968	(D)	(D)
		1983	2,033,791	149,449	14,784	(D)	(D)
28731 51	Solid	1987	1,788,672	2,017,438	192,430	(D)	(D)
		1986	1,780,793	1,837,385	204,161	(D)	(D)
		1985	2,428,704	2,299,522	288,559	(D)	(D)
		1984	2,539,439	2,462,240	345,655	(D)	(D)
		1983	2,520,426	2,373,426	327,316	(D)	(D)
28731 53	Explosives and other uses (solution and solid)	1987	1,713,192	1,406,237	145,243	24,729	2,440
		1986	1,437,305	1,110,355	157,149	(D)	(D)
		1985	1,276,851	1,090,331	142,315	(D)	(D)
		1984	1,307,822	947,537	125,738	(D)	(D)
		1983	1,113,032	838,934	100,325	(D)	(D)
28731 55	Nitrogen solutions (100% N) (including mixtures containing urea)	1987	2,384,548	2,405,377	444,711	(D)	(D)
		1986	2,275,078	2,243,137	492,433	(D)	(D)
		1985	2,655,557	2,498,570	738,296	(D)	(D)
		1984	2,894,427	2,656,153	783,482	(D)	(D)
		1983	2,605,338	2,198,126	585,001	(D)	(D)
28731 65	Solutions containing ammonia[4]	1987	143,260	138,232	26,665	(D)	(D)
		1986	197,576	200,049	39,805	(D)	(D)
		1985	235,153	195,942	53,389	(D)	(D)
		1984	340,538	282,069	68,177	(D)	(D)
		1983	305,658	268,769	62,916	(D)	(D)
28731 66, 67	Ammonium nitrate/urea solutions and all other two-component products[5]	1984	2,553,889	2,374,084	715,305	(D)	(D)
		1983	2,299,680	1,929,957	522,085	(D)	(D)

See footnotes at end of table.

Table 2. PRODUCTION AND SHIPMENTS OF INORGANIC FERTILIZER CHEMICALS: 1983 TO 1987--Continued

(Quantity in short tons; value in thousands of dollars)

Product code	Chemical and basis	Year	Total production (quantity)	Total shipments including interplant transfers		Interplant transfers	
				Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant
	Nitrogen solutions (100% N) (including mixtures containing urea)--Continued						
28731 66	Ammonium nitrate/urea solutions[4 5]	1987	2,241,288	2,267,145	418,046	(D)	(D)
		1986	2,077,502	2,041,088	452,628	(D)	(D)
		1985	2,420,404	2,302,628	684,907	(D)	(D)
28731 73	Ammonium nitrate/calcium nitrate solutions[6]	1987	(4)	(4)	(4)	-	-
		1986	(4)	(4)	(4)	-	-
28731 67	All other two-component products	1987	-	-	-	-	-
		1986	-	-	-	-	-
		1985	(4)	(4)	(4)	(4)	(4)
	Sulfate, synthetic and byproduct other than coke oven byproduct (100% $(NH_4)_2SO_4$)[2]	1987	2,189,075	1,986,427	108,110	(D)	(D)
		1986	2,080,106	2,141,155	115,246	(D)	(D)
		1985	2,093,213	2,008,032	148,362	(D)	(D)
		1984	2,066,506	1,898,769	136,034	(D)	(D)
		1983	1,955,661	2,070,287	125,226	(D)	(D)
28731 56	Synthetic	1987	(D)	(D)	(D)	(D)	(D)
		1986	(D)	(D)	(D)	(D)	(D)
		1985	(D)	(D)	(D)	(D)	(D)
		1984	(D)	(D)	(D)	(D)	(D)
		1983	(D)	(D)	(D)	(D)	(D)
28731 58	Byproduct, other than coke oven	1987	(D)	(D)	(D)	-	-
		1986	(D)	(D)	(D)	-	-
		1985	(D)	(D)	(D)	-	-
		1984	(D)	(D)	(D)	(D)	(D)
		1983	(D)	(D)	(D)	(D)	(D)
	Byproduct, coke oven[7]	1987	(X)	(X)	(X)	(X)	(X)
		1986	(X)	(X)	(X)	(X)	(X)
		1985	(X)	(X)	(X)	(X)	(X)
		1984	269,387	(X)	(X)	(X)	(X)
		1983	229,483	(X)	(X)	(X)	(X)
28731 69	Other ammonium compounds (including ammonium chloride, gray and white)	1987	(X)	(X)	73,879	(X)	(X)
		1986	(X)	(X)	75,712	(X)	(X)
		1985	(X)	(X)	121,935	(X)	(X)
		1984	(X)	(X)	114,698	(X)	(X)
		1983	(X)	(X)	78,522	(X)	(X)
28732 --	Urea (100%)	1987	7,433,423	5,019,170	469,638	(D)	(D)
		1986	6,263,872	3,894,126	390,020	(D)	(D)
		1985	6,974,742	4,301,468	541,987	(D)	(D)
		1984	7,751,663	5,050,955	675,257	(D)	(D)
		1983	5,181,598	4,230,450	500,659	(D)	(D)
	For fertilizer use:						
28732 16	Solutions produced as intermediate in nitrogen solutions	1987	2,470,828	46,832	5,524	-	-
		1986	2,245,658	34,127	4,164	-	-
		1985	2,514,310	49,045	8,030	-	-
		1984	2,580,374	26,964	4,449	-	-
		1983	1,911,771	26,200	4,061	(D)	(D)
28732 18	Solid	1987	4,139,545	4,172,530	380,829	(D)	(D)
		1986	3,324,058	3,185,163	308,043	(D)	(D)
		1985	3,796,300	3,631,570	440,229	-	-
		1984	4,535,931	4,395,880	571,291	(D)	(D)
		1983	3,822,848	3,767,952	430,039	(D)	(D)
	Other uses:						
28732 21	Feed (solid and solution)	1987	308,518	308,829	34,699	-	-
		1986	r232,392	r247,009	r31,839	-	-
		1985	284,550	286,673	46,503	-	-
		1984	300,926	295,605	48,396	-	-
		1983	282,245	294,660	44,956	-	-
28732 22	All other (solid and solution)	1987	514,532	490,979	48,386	(D)	(D)
		1986	461,764	427,827	45,974	(D)	(D)
		1985	379,582	334,180	47,225	(D)	(D)
		1984	334,432	332,506	51,121	(D)	(D)
		1983	164,734	141,638	21,603	(D)	(D)
28741 --	Phosphoric acid (100% P_2O_5)	1987	10,685,095	4,314,848	1,152,066	1,464,355	353,163
		1986	9,577,639	3,786,382	1,075,832	838,196	214,465
		1985	10,606,922	4,006,853	1,139,621	578,311	133,751
		1984	11,393,940	4,099,380	1,173,055	710,176	133,630
		1983	9,766,631	3,586,163	1,025,619	584,649	r94,396
28741 81	Thermal	1987	614,352	218,913	130,771	(D)	(D)
		1986	595,906	207,066	132,794	(D)	(D)
		1985	599,534	228,938	148,775	(D)	(D)
		1984	678,900	247,588	172,011	6,697	4,394
		1983	657,842	231,917	155,758	9,845	5,879

See footnotes at end of table.

Table 2. PRODUCTION AND SHIPMENTS OF INORGANIC FERTILIZER CHEMICALS: 1983 TO 1987--Continued

(Quantity in short tons; value in thousands of dollars)

Product code	Chemical and basis	Year	Total production (quantity)	Total shipments including interplant transfers		Interplant transfers	
				Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant
	Phosphoric acid (100% P_2O_5)--Continued						
28741 85	Wet	1987	10,070,743	4,095,935	1,021,295	(D)	(D)
		1986	8,981,733	3,579,316	943,038	(D)	(D)
		1985	10,007,388	3,777,915	990,846	(D)	(D)
		1984	10,715,040	3,851,792	1,001,044	703,479	129,236
		1983	9,108,789	3,354,246	869,861	574,804	88,517
	By use:						
28741 86	Fertilizer	1987	9,664,324	(D)	(D)	(D)	(D)
		1986	8,505,672	(D)	(D)	(D)	(D)
		1985	9,475,044	3,544,624	932,967	(D)	(D)
		1984	10,114,678	(D)	(D)	(D)	(D)
		1983	8,594,261	(D)	(D)	(D)	(D)
28741 87	Feed and other	1987	406,419	(D)	(D)	(D)	(D)
		1986	476,061	(D)	(D)	(D)	(D)
		1985	532,344	233,291	57,879	(D)	(D)
		1984	600,362	(D)	(D)	(D)	(D)
		1983	514,528	(D)	(D)	(D)	(D)
	By grade:						
28741 88	Ortho (less than 65% P_2O_5)	1987	8,522,913	2,683,485	609,972	(D)	(D)
		1986	7,431,583	2,182,825	518,428	(D)	(D)
		1985	8,402,525	2,355,478	542,738	(D)	(D)
		1984	9,351,032	2,722,331	646,454	703,479	129,236
		1983	7,847,569	2,285,071	501,618	574,804	88,517
28741 89	Super (65% or more P_2O_5)	1987	1,347,830	1,412,450	411,323	-	-
		1986	1,550,150	1,396,491	424,610	-	-
		1985	1,604,863	1,422,437	448,108	-	-
		1984	1,364,008	1,129,461	354,590	-	-
		1983	1,261,209	1,067,407	367,778	-	-
28742 --	Superphosphate and other phosphatic fertilizer materials (100% P_2O_5)	1987	7,104,999	7,127,272	2,060,109	63,456	11,883
		1986	6,108,124	6,126,210	1,760,423	211,794	37,683
		1985	7,653,180	7,695,070	2,380,893	237,848	71,951
		1984	8,031,908	7,758,887	2,667,860	291,450	101,338
		1983	7,056,258	6,859,014	2,206,388	287,903	92,275
28742 15	Normal and enchriched superphosphates	1987	64,044	20,318	5,745	11,564	3,311
		1986	65,192	23,720	5,816	11,754	3,230
		1985	100,343	36,114	8,792	17,247	4,254
		1984	126,817	51,907	11,697	17,128	3,255
		1983	122,135	51,820	13,215	21,419	5,125
28742 41	Concentrated superphosphates	1987	956,010	947,552	229,031	-	-
		1986	971,899	1,029,163	224,976	(D)	(D)
		1985	1,190,037	1,213,977	292,969	(D)	(D)
		1984	1,123,838	1,107,951	283,155	(D)	(D)
		1983	1,245,507	1,256,712	317,508	(D)	(D)
28742 51	Monoammonium phosphates	1987	962,613	958,413	284,001	(D)	(D)
		1986	740,518	735,425	208,243	(D)	(D)
		1985	911,132	898,205	280,735	(D)	(D)
		1984	843,677	824,514	265,431	(D)	(D)
		1983	709,645	700,706	214,415	(D)	(D)
28742 52	Diammonium phosphates	1987	5,017,470	5,102,961	1,305,648	(D)	(D)
		1986	4,221,661	4,234,116	1,265,811	(D)	(D)
		1985	5,339,603	5,440,295	1,740,338	(D)	(D)
		1984	5,803,862	5,655,313	2,052,969	(D)	(D)
		1983	4,781,971	4,678,311	1,599,937	(D)	(D)
28742 55	Other ammonium phosphates	1987	[8]104,862	[8]98,028	[8]35,684	(D)	(D)
		1986	[8]108,854	[8]103,786	[8]55,577	(D)	(D)
		1985	[8]112,065	[8]106,479	[8]58,059	(D)	(D)
		1984	[8]133,714	[8]119,202	[8]54,608	(D)	(D)
		1983	[8]197,000	[8]171,465	[8]61,313	(D)	(D)
28742 61	Other phosphatic fertilizer materials	1987	(8)	(8)	(8)	(8)	(8)
		1986	(8)	(8)	(8)	(8)	(8)
		1985	(8)	(8)	(8)	(8)	(8)
		1984	(8)	(8)	(8)	(8)	(8)
		1983	(8)	(8)	(8)	(8)	(8)

- Represents zero. (D) Data withheld to avoid disclosing figures for individual companies. [r]Revised by 5 percent or more from previously published figures. (X) Not applicable.

[1]Include unspecified amounts of nitric acid produced but not withdrawn from the system.
[2]Excludes data for byproduct ammonia liquor and ammonium sulfate published by the Department of Energy.
[3]Represents total amount of original solution produced, including amounts used for fertilizer, explosive, and other uses and amounts consumed in manufacturing other products such as nitrogen solutions (product code 28731 55).
[4]Starting with 1985, "All other two-component products" (28731 67) is combined with "Solutions containing ammonia" (28731 65) to avoid disclosing figures for individual companies.
[5]Prior to 1985, "All other two-component products" (28731 67) was combined with "Solutions containing ammonium nitrate/urea" (28731 66) to avoid disclosing figures for individual companies.
[6]New item for 1986.
[7]Source: U.S. Department of Energy. (Figures are not available after 1984.)
[8]"Other phosphatic fertilizer materials" (28742 61) is combined with "Other ammonium phosphates" (28742 55) to avoid disclosing figures for individual companies.

Table 3. QUANTITIES OF SELECTED INORGANIC FERTILIZER CHEMICALS PRODUCED AND CONSUMED IN SAME PLANT: 1983 TO 1987

Product code	Product description	Basis	Consumed in producing plants (short tons) 1987	1986	1985	1984	1983
28731 11	Nitric acid	100% NHO_3	6,613,086	6,033,256	7,152,112	7,297,517	6,523,165
28731 30 28731 21	Ammonia (synthetic) anhydrous	100% NH_3	6,718,080	5,991,707	6,928,191	7,360,081	6,226,919
	Ammonium nitrate:						
28731 52 28731 54	Fertilizer use solution[1]	100% NH_4NO_3	2,561,340	[r]2,585,162	2,423,121	1,807,273	1,568,658
28731 51 28731 53	Other uses (solution and solid)	...do	276,402	323,853	261,543	333,963	291,782
	Phosphoric acid	100% P_2O_5	6,751,448	5,689,719	6,754,819	7,032,305	6,241,533
28741 81	Thermal	...do	407,664	393,387	390,681	449,846	454,584
28741 85	Wet	...do	6,343,784	5,296,332	6,364,138	6,582,459	5,786,949

[r] Revised by 5 percent or more from previously published figures.

[1] Excludes amount converted to solid nitrate.

Table 4. COMPARISON OF VALUES OF SHIPMENTS OF INORGANIC FERTILIZER CHEMICALS, AS REPORTED IN THE MA28B, THE 1986 ANNUAL SURVEY OF MANUFACTURES, AND THE 1982 CENSUS OF MANUFACTURES

(Value in thousands of dollars)

Product code	Product description	1986 MA28B	1986 Annual Survey of Manufactures Value	1986 Annual Survey of Manufactures Standard error of estimates[1]	1982 MA28B	1982 Census of Manufactures
28193	Sulfuric acid	538.3	553.2	3	605.8	586.0
28731	Synthetic ammonia, nitric acid, and ammonium compounds	2,039.1	1,967.8	3	2,833.3	2,745.6
28732	Urea	390.0	394.1	1	532.3	540.7
28741	Phosphoric acid	1,075.8	1,124.2	1	1,048.8	1,028.9
28742	Superphosphate and other phosphatic fertilizer materials	1,760.4	1,876.0	1	1,814.0	1,997.6

[1] The annual survey of manufactures percentage standard errors shown are the approximate relative errors of the estimates of level. A more detailed description of the standard error of estimate is given in the introduction of the annual survey of manufactures, Value of Product Shipments, MB6(AS)-2, under "Qualifications of the Data."

Table 5. PRODUCTION OF INORGANIC FERTILIZER CHEMICALS, BY STATE: 1987 AND 1986

(Short tons)

Geographic area	Nitric acid (100% HNO_3) (2873111)		Ammonia synthetic anhydrous (100% NH_3) (2873130 and 132)		Phosphoric acid (100% P_2O_5) (2814181 and 185)		Urea (100% urea) (2873216 218, 221, and 222)		Ammonium nitrate, original solution (100% NH_4NO_3) (2873150)		Nitrogen solutions (100% N) (2873165, 166, 167, and 173)	
	1987	1986	1987	1986	1987	1986	1987	1986	1987	1986	1987	1986
United States	7,225,127	6,736,211	16,094,683	14,487,469	10,685,095	9,577,639	7,433,423	6,263,872	6,546,683	6,091,125	2,384,548	2,275,078
California	306,181	259,384	(D)	(D)	(D)	(D)	(D)	(D)	237,917	236,658	200,122	169,153
Florida	690,817	584,085	(D)	(D)	6,198,579	5,268,099	(D)	(D)	(D)	(D)	(D)	(D)
Georgia	(D)	610,459	(D)	(D)	74,905	(D)	(D)	(D)	(D)	658,861	211,757	225,046
Illinois	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Iowa	160,292	207,279	369,558	444,990	-	-	(D)	(D)	(D)	(D)	(D)	(D)
Louisiana	819,331	751,915	6,764,777	6,284,241	(D)	1,933,752	2,381,741	2,427,021	(D)	(D)	(D)	(D)
Missouri	420,476	(D)	-	(D)	(D)	(D)	(D)	(D)	456,874	(D)	(D)	-
Nebraska	(D)	(D)	(D)	(D)	-	-	(D)	(D)	(D)	(D)	167,915	141,442
Oklahoma	(D)	467,151	2,319,754	1,803,285	-	-	(D)	(D)	(D)	594,444	(D)	(D)
Tennessee	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
Texas	(D)	(D)	(D)	732,268	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
All other states	2,602,646	2,482,039	4,108,970	3,715,489	2,177,981	1,771,018	2,664,413	1,865,198	2,376,424	2,482,079	556,879	613,384

Geographic area	Normal and cariched superphosphates (100% P_2O_5) (2874215)		Concentrated superphosphates (100% P_2O_5) (2874241)		Monoammonium phosphates (100% P_2O_5) (2874251)		Diammonium phosphates (100% P_2O_5) (2874252)		Other ammonium phosphates (100% P_2O_5) (2874253 and 61)	
	1987	1986	1987	1986	1987	1986	1987	1986	1987	1986
United States	64,044	65,192	956,010	971,899	962,613	740,518	5,017,470	4,221,661	104,862	108,854
California	-	(D)	-	-	-	-	-	-	(D)	(D)
Florida	-	(D)	833,360	855,801	503,122	350,004	3,229,941	2,365,126	-	-
Georgia	23,872	24,392	-	-	-	-	-	-	-	(D)
Illinois	-	-	-	-	(D)	(D)	(D)	(D)	(D)	(D)
Louisiana	-	-	-	-	(D)	(D)	(D)	1,303,596	-	(D)
Missouri	(D)	(D)	-	-	-	-	-	-	(D)	(D)
Nebraska	-	-	-	-	-	-	-	-	(D)	(D)
South Carolina	(D)	(D)	-	-	-	-	-	-	-	-
Tennessee	(D)	(D)	-	-	-	-	-	-	-	-
Texas	-	-	-	-	(D)	(D)	(D)	(D)	(D)	(D)
All other states	16,393	16,868	122,650	116,098	216,106	126,476	402,909	313,051	72,457	48,235

- Represents zero. (D) Data withheld to avoid disclosing figures for individual companies.

Table 6. TOTAL SHIPMENTS (INCLUDING INTERPLANT TRANSFERS) OF SULFURIC ACID, BY STATES: 1987 AND 1986

(Quantity in thousands of short tons of 100% H_2SO_4; value in thousands of dollars)

State	1987		1986	
	Quantity	Value	Quantity	Value
United States	11,299.0	561,022	10,884.4	538,301
Arizona	1,149.7	21,819	1,098.9	12,323
California	773.1	53,090	r794.7	r56,719
Florida	372.2	16,988	184.0	8,899
Illinois	335.7	19,503	347.4	19,181
Louisiana	1,654.7	108,415	1,578.1	107,055
New Jersey	408.2	25,715	339.6	22,326
Ohio	409.3	25,629	375.7	24,679
Texas	1,671.0	96,416	1,617.0	88,723
Virginia	(D)	(D)	(D)	(D)
Washington	(D)	(D)	(D)	(D)
Other states	4,322.6	174,198	4,259.6	174,648

(D) Data withheld to avoid disclosing figures for individual companies. rRevised by 5 percent or more from previously published figures.

Table 7. PRODUCTION OF NEW SULFURIC ACID, BY STATES: 1987 AND 1986

(Thousands of short tons of 100% H_2SO_4)

State	1987[1]	1986[1]
United States	36,674.0	33,517.6
Arizona	1,196.7	r1,155.5
California	1,080.9	r1,080.6
Florida	16,593.9	14,042.8
Illinois	584.1	r680.4
Louisiana	5,910.3	r6,075.1
Missouri	(D)	(D)
New Jersey	478.9	410.3
New Mexico	(D)	(D)
Ohio	518.3	r466.1
Oklahoma and Texas	2,936.0	r2,759.7
Virginia	(D)	496.7
Washington	(D)	(D)
Other states	5,524.5	r4,918.9

(D) Data withheld to avoid disclosing figures for individual companies. rRevised by 5 percent or more from previously published figures.

[1]Includes data for Government-owned, privately-operated plants.

Table 8. PRIMARY PRODUCTION OF INORGANIC FERTILIZER CHEMICALS, BY MONTHS: 1987 AND 1986

(Short tons)

Product code	Product description	Year	Total	January	February	March	April	May	June	July	August	September	October	November	December
	Ammonia, synthetic anhydrous (100% NH_3):														
	Production	1987	16,094,983	1,374,229	1,251,792	1,447,090	1,418,101	1,410,546	1,306,533	1,263,770	1,201,683	1,233,010	1,397,166	1,351,650	1,444,113
		1986	14,487,469	1,276,791	1,217,421	1,295,376	1,310,778	1,299,528	1,157,694	1,039,377	1,135,738	1,149,318	1,202,494	1,140,867	1,267,087
	Stocks on hand, end of month	1987	(NA)	1,949,694	2,143,942	2,097,669	1,167,606	1,021,735	854,374	972,317	983,101	1,004,652	1,141,209	1,213,060	1,281,046
		1986	(NA)	2,321,561	2,486,599	2,476,587	1,705,859	1,524,807	1,401,289	1,483,434	1,489,207	1,590,466	1,665,380	1,765,504	1,833,684
28731 30	Fertilizer use:														
	Production	1987	14,618,329	1,243,321	1,134,979	1,312,050	1,285,861	1,299,595	1,183,078	1,147,228	1,092,050	1,107,099	1,263,534	1,223,080	1,326,454
		1986	13,201,886	1,200,765	1,151,306	1,196,475	1,180,069	1,166,936	1,064,981	988,316	1,027,220	1,012,821	1,084,824	1,005,901	1,122,272
	Stocks on hand, end of month	1987	(NA)	1,913,329	2,105,999	2,062,838	1,127,796	984,629	809,579	923,505	939,032	958,131	1,085,983	1,156,434	1,234,550
		1986	(NA)	2,277,859	2,448,025	2,436,603	1,646,765	1,487,871	1,359,151	1,454,055	1,443,382	1,539,970	1,619,977	1,726,304	1,790,779
28731 32	Other uses:														
	Production	1987	1,476,354	130,908	116,813	130,040	132,240	110,951	123,455	116,542	109,633	125,911	133,632	128,570	117,659
		1986	1,285,583	76,026	66,115	98,901	130,709	132,592	92,713	51,061	108,518	136,497	117,670	134,966	139,815
	Stocks on hand, end of month	1987	(NA)	36,365	37,943	34,831	39,810	37,106	44,795	48,812	44,069	46,521	55,226	56,626	46,496
		1986	(NA)	43,702	38,574	39,984	59,094	56,950	42,138	29,379	45,825	50,496	45,403	39,200	42,905
	Ammonium nitrate (100% NH_4NO_3):														
28731 50	Original solution:[1]														
	Production	1987	6,546,683	542,838	540,798	640,794	645,896	592,837	508,146	470,392	394,938	466,615	566,132	570,929	606,368
		1986	6,091,125	527,524	570,833	671,854	580,228	542,391	r490,864	400,942	413,504	462,450	500,076	466,518	463,941
	Stocks on hand, end of month	1987	(NA)	244,192	204,907	198,899	165,744	133,397	r139,921	138,358	120,647	r125,107	141,611	r166,498	170,573
		1986	(NA)	235,482	214,763	183,149	178,987	169,585	176,394	183,239	154,837	r157,029	r193,729	r226,464	r238,590
	Fertilizer use:														
28731 52	Solution produced for sale as such for direct application:														
	Production	1987	266,386	18,879	23,805	27,483	28,677	25,350	21,210	25,621	17,646	19,952	19,873	19,524	18,366
		1986	294,828	27,515	22,265	31,214	30,125	27,699	26,181	20,056	21,397	22,638	22,847	(D)	(D)
	Stocks on hand, end of month	1987	(NA)	(D)	42,291	43,816	46,437	35,580	29,208	29,146	(D)	39,971	44,296	49,959	42,489
		1986	(NA)	63,151	60,206	45,800	32,724	29,902	30,039	34,264	40,130	50,832	58,522	(D)	(D)
28731 54	Solution produced for consumption in the manufacture of nitrogen solutions or other fertilizer materials:														
	Production	1987	2,548,991	173,774	185,844	213,337	247,327	256,868	176,820	178,933	171,445	196,962	239,648	239,136	268,897
		1986	r2,455,405	214,811	233,539	289,108	269,185	233,541	200,696	183,144	152,037	152,539	150,910	186,578	189,317
	Stocks on hand, end of month	1987	(NA)	49,867	50,668	49,745	48,631	40,959	r38,285	32,443	28,458	40,252	33,053	37,314	51,196
		1986	(NA)	29,219	28,635	31,323	27,936	28,935	28,212	24,079	21,491	22,285	32,084	39,374	37,747
28731 51	Solid:														
	Production	1987	1,788,672	176,536	180,710	208,591	208,181	170,107	139,326	116,811	74,594	92,077	124,545	142,812	154,382
		1986	1,780,793	169,326	184,355	230,094	181,881	146,563	124,739	92,186	105,976	112,824	149,147	138,501	145,201
	Stocks on hand, end of month	1987	(NA)	253,380	226,096	188,879	148,726	129,667	121,586	138,833	133,297	123,562	135,294	154,320	144,176
		1986	(NA)	244,015	250,224	199,430	144,481	100,158	98,886	97,968	109,060	107,215	155,245	206,359	225,634
28731 53	Explosives and other uses (solutions and solids):[2]														
	Production	1987	1,713,192	103,507	128,564	130,549	150,142	144,504	144,255	138,978	142,258	162,416	168,181	151,094	148,744
		1986	1,437,305	99,093	115,222	120,883	105,445	126,279	121,141	121,777	127,672	130,218	157,923	109,513	102,139
	Stocks on hand, end of month	1987	(NA)	(S)	(S)	(S)	r56,604	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
		1986	(NA)	55,528	57,174	(S)	(S)	43,136	(S)	(S)	(S)	(S)	(S)	(S)	(S)
	Ammonium sulfate (100% $(NH_4)_2SO_4$):														
	Production	1987	2,189,075	182,813	186,154	183,330	183,864	193,213	159,625	187,371	182,641	179,461	181,946	187,338	181,319
		1986	2,080,106	172,065	168,535	192,193	165,378	191,089	179,681	159,801	156,563	172,378	171,639	179,222	180,562
	Stocks on hand, end of month	1987	(NA)	215,268	172,987	165,241	129,248	219,106	174,662	217,006	242,606	221,374	213,093	240,774	274,561
		1986	(NA)	308,449	323,498	246,284	205,076	211,010	204,753	172,820	164,560	141,762	126,260	153,208	196,814
28731 56	Synthetic:														
	Production	1987	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
		1986	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Stocks on hand, end of month	1987	(NA)	21,548	27,849	19,347	17,042	(D)	(D)	(D)	23,952	22,252	(D)	(D)	(D)
		1986	(NA)	30,143	(D)	(D)	(D)	(D)	(D)	21,113	15,695	14,799	12,779	13,228	18,921
28731 58	Byproduct, other than coke oven:														
	Production	1987	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
		1986	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Stocks on hand, end of month	1987	(NA)	193,720	145,138	145,894	112,206	(D)	(D)	(D)	218,654	199,122	(D)	(D)	(D)
		1986	(NA)	278,306	(D)	(D)	(D)	(D)	(D)	151,707	148,865	126,963	113,484	139,980	177,893

See footnotes at end of table.

Table 8. PRIMARY PRODUCTION OF INORGANIC FERTILIZER CHEMICALS, BY MONTHS: 1987 AND 1986--Continued

(Short tons)

Product code	Product description	Year	Total	January	February	March	April	May	June	July	August	September	October	November	December
28731 11	Nitric acid (100% HNO_3):														
	Production	1987	7,225,127	603,332	559,583	682,692	664,378	620,629	578,914	530,078	470,178	561,398	639,852	640,016	674,077
		1986	6,736,264	583,374	599,432	709,792	655,190	640,554	542,236	458,324	463,477	504,620	535,487	517,539	526,236
	Stocks on hand, end of month	1987	(NA)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
		1986	(NA)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
28731 55	Nitrogen solutions (including mixtures containing urea) (100% N):														
	Production	1987	2,384,548	202,632	205,085	205,539	244,397	239,443	164,162	180,541	147,996	162,114	199,840	211,999	220,800
		1986	2,275,078	206,828	220,471	246,612	249,396	217,875	170,377	159,061	163,694	167,314	147,334	154,523	171,593
	Stocks on hand, end of month	1987	(NA)	641,951	665,657	655,004	613,893	511,794	361,977	409,588	415,957	408,798	423,399	391,663	344,727
		1986	(NA)	691,309	706,281	747,205	706,101	551,103	482,175	504,412	578,104	598,510	578,062	583,791	568,225
28731 65	Solutions containing ammonia: [3]														
	Production	1987	143,260	16,578	18,405	17,625	19,537	14,440	15,088	13,111	6,173	5,498	6,246	5,948	4,611
		1986	197,576	16,621	14,971	19,229	21,835	20,514	19,709	14,347	12,097	15,065	13,996	13,206	15,486
	Stocks on hand, end of month	1987	(NA)	138,112	142,440	137,372	[4]139,409	[4]134,974	(S)	(S)	(S)	30,309	37,533	38,081	32,372
		1986	(NA)	80,271	171,036	180,914	[4]178,588	[4]133,826	[4]114,915	115,781	135,918	139,969	148,131	148,250	140,477
28731 66	Solutions containing ammonium nitrate/ urea:														
	Production	1987	2,241,288	186,054	186,680	187,914	224,860	225,003	149,074	167,430	141,823	156,616	193,591	206,051	216,189
		1986	2,077,502	190,207	205,500	227,383	227,561	197,361	150,668	144,214	151,597	152,249	133,338	141,317	156,107
	Stocks on hand, end of month	1987	(NA)	503,839	523,217	517,632	474,484	376,820	309,153	347,116	388,689	378,489	385,866	353,582	312,355
		1986	(NA)	511,038	535,245	566,291	527,513	417,277	367,260	388,631	442,186	458,541	429,931	435,541	427,748
28731 73	Solutions containing ammonium nitrate/ calcium nitrate:														
	Production	1987	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
		1986	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
	Stocks on hand, end of month	1987	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
		1986	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
28731 67	All other two-component products:														
	Production	1987	-	-	-	-	-	-	-	-	-	-	-	-	-
		1986	-	-	-	-	-	-	-	-	-	-	-	-	-
	Stocks on hand, end of month	1987	(NA)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
		1986	(NA)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
28741 --	Phosphoric acid (100% P_2O_5):														
	Production	1987	10,685,095	809,908	804,928	919,359	970,415	863,846	795,397	825,114	918,119	912,576	962,735	916,126	986,572
		1986	9,577,639	600,982	692,201	875,818	855,424	809,843	750,413	720,040	733,952	853,256	943,618	851,599	890,493
	Stocks on hand, end of month	1987	(NA)	276,307	229,024	227,270	253,100	239,369	252,515	237,884	237,578	219,538	233,955	229,036	215,465
		1986	(NA)	239,975	239,005	219,155	216,535	283,449	258,163	236,472	237,456	239,488	261,342	238,780	251,021
28741 81	Thermal:														
	Production	1987	614,352	45,523	46,326	57,917	58,754	51,079	53,293	50,538	48,092	50,572	47,475	55,051	49,732
		1986	595,906	45,869	52,775	55,513	54,658	53,121	46,628	42,988	47,273	48,672	50,745	49,791	47,873
	Stocks on hand, end of month	1987	(NA)	18,064	12,933	12,564	13,714	10,566	13,101	14,670	15,143	12,298	9,827	12,250	12,646
		1986	(NA)	13,893	14,570	13,123	11,928	13,588	20,042	16,199	12,941	12,694	15,072	14,995	16,522
28741 85	Wet:														
	Production	1987	10,070,743	764,385	758,602	861,442	911,661	812,767	742,104	774,576	870,027	862,004	915,260	861,075	936,840
		1986	8,981,733	555,113	639,426	820,305	800,766	756,722	703,785	677,052	686,679	804,584	892,873	801,808	842,620
	Stocks on hand, end of month	1987	(NA)	258,243	216,091	214,706	239,386	228,803	239,414	223,214	222,835	207,240	224,128	216,746	202,819
		1986	(NA)	226,082	224,435	206,032	204,607	269,861	238,121	220,273	224,515	226,794	246,270	223,785	234,499
	By use:														
28741 86	Fertilizer:														
	Production	1987	9,664,324	734,902	(D)	(D)	885,136	778,885	714,887	736,522	827,162	829,372	877,060	825,936	891,518
		1986	8,505,672	522,344	603,160	788,184	766,142	717,904	665,059	631,938	653,124	763,174	850,353	755,747	788,543
	Stocks on hand, end of month	1987	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
		1986	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28741 87	Feed and other:														
	Production	1987	406,419	29,483	(D)	(D)	26,525	33,882	27,217	38,054	42,865	32,632	38,200	35,139	45,322
		1986	476,061	32,769	36,266	32,121	34,624	38,818	38,728	45,114	33,555	41,410	42,520	46,061	54,077
	Stocks on hand, end of month	1987	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
		1986	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 8. PRIMARY PRODUCTION OF INORGANIC FERTILIZER CHEMICALS, BY MONTHS: 1987 AND 1986--Continued

(Short tons)

Product code	Product description	Year	Total	January	February	March	April	May	June	July	August	September	October	November	December
	Phosphoric acid (100% P_2O_5)--Continued														
	Wet--Continued														
	By grade:														
28741 88	Ortho (less than 65% P_2O_5):														
	Production	1987	8,522,913	655,055	638,727	725,112	773,608	693,459	629,929	657,765	751,790	733,923	780,608	731,717	751,220
		1986	7,431,583	453,526	504,610	675,536	649,234	623,721	588,622	(D)	(D)	685,822	767,405	668,253	687,544
	Stocks on hand, end of month	1987	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
		1986	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28741 89	Super (more than 65% P_2O_5):														
	Production	1987	1,547,830	109,330	119,875	136,330	138,053	119,308	112,175	116,811	118,237	128,081	134,652	129,358	185,620
		1986	1,550,150	101,587	134,816	144,769	151,532	133,001	115,163	(D)	(D)	118,762	125,468	133,555	155,076
	Stocks on hand, end of month	1987	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
		1986	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28732 --	Urea (100% urea):														
	Production	1987	7,433,423	630,549	584,100	691,083	681,613	649,716	559,780	518,220	493,255	611,862	644,803	631,132	737,310
		1986	6,263,872	528,454	543,324	570,085	622,148	624,350	507,356	432,211	483,907	502,694	464,653	451,432	533,258
	Stocks on hand, end of month	1987	(NA)	496,514	515,545	462,736	391,579	500,060	459,054	493,996	493,005	500,203	483,006	467,295	400,168
		1986	(NA)	602,996	593,460	513,279	344,855	337,841	323,602	376,233	437,168	428,771	508,711	625,189	619,909
	For fertilizer use:														
28732 16	Solutions produced as intermediate in nitrogen solutions:														
	Production	1987	2,470,828	188,405	182,546	228,611	232,206	216,385	182,593	150,619	161,292	222,155	231,847	221,739	252,430
		1986	2,245,658	175,841	227,730	251,229	231,666	226,577	186,120	134,698	152,613	177,329	156,120	167,163	158,572
	Stocks on hand, end of month	1987	(NA)	750	313	389	325	427	297	295	383	429	397	373	391
		1986	(NA)	798	1,203	1,045	[4]743	636	512	379	299	370	899	1,312	486
28732 18	Solid:														
	Production	1987	4,139,545	385,571	355,613	407,667	401,954	385,418	322,880	317,985	248,487	295,835	334,422	321,399	362,314
		1986	3,324,058	266,319	265,262	267,773	329,046	338,795	266,305	252,298	281,637	270,173	250,309	230,399	304,962
	Stocks on hand, end of month	1987	(NA)	485,375	504,128	449,734	382,458	492,025	450,961	484,947	459,218	469,179	460,201	439,066	365,391
		1986	(NA)	583,194	571,814	496,209	333,159	325,350	307,128	367,113	436,869	418,948	495,226	608,965	607,020
	Other uses:														
28732 21	Feed (solid and solution):														
	Production	1987	308,518	(D)	(D)	19,983	15,607	14,845	21,689	26,902	23,442	26,050	30,899	31,271	43,819
		1986	232,392	28,696	16,123	16,491	15,768	21,490	15,539	(D)	15,167	13,734	11,989	26,264	(D)
	Stocks on hand, end of month	1987	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
		1986	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28732 22	All other (solid and solution):														
	Production	1987	514,532	(D)	(D)	34,822	31,846	33,068	32,618	22,714	60,034	67,822	47,635	36,723	78,747
		1986	461,764	57,398	34,229	34,592	45,668	37,488	38,792	(D)	34,490	41,458	46,235	27,606	(D)
	Stocks on hand, end of month	1987	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
		1986	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

Note: The 1987 and 1986 monthly stocks on hand, end of month were originally published in the monthly Current Industrial Report Series, M28B, "Inorganic Fertilizer Materials and Related Products."

The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text for a discussion of estimation of missing reports): [4]20 percent or more of this item is estimated.

- Represents zero. (D) Data withheld to avoid disclosing figures for individual companies. (NA) Not available. [r]Revised by 5 percent or more from previously published figures. (S) Suppressed. Data did not meet publication standards of the Bureau of the Census. (X) Not applicable.

[1]Represents total amount of original solution produced, including amounts used for fertilizer, explosive, and other uses and amounts consumed in manufacturing other products, such as nitrogen solutions (product code 28731 55).

[2]Excludes data for Government-owned, privately operated plants.

[3]In 1986 and 1987, "Solutions containing ammonium nitrate/calcium nitrate" and "All other two-component products are combined with "Solutions containing ammonia" to avoid disclosing figures for individual companies.

Table 9. PRODUCTION, SHIPMENTS, AND STOCKS OF SUPERPHOSPHATES AND OTHER PHOSPHATIC FERTILIZER MATERIALS, BY MONTH: 1987 AND 1986

(Short tons)

Product code	Product description	Year	Total	January	February	March	April	May	June	July	August	September	October	November	December
28742 --	Superphosphates and other phosphatic fertilizer materials:														
	Production (100% P_2O_5)	1987	7,104,999	536,107	526,090	591,945	630,608	564,767	521,033	551,650	664,859	656,444	650,617	596,954	613,925
		1986	6,108,124	383,718	429,751	527,260	548,314	493,315	446,737	453,071	516,952	587,785	624,006	528,750	568,465
	Shipments, including interplant transfers (100% P_2O_5)	1987	7,127,272	563,897	582,203	634,678	608,249	468,723	561,446	529,000	673,837	707,626	600,522	541,513	655,578
		1986	6,126,210	432,158	483,354	547,019	660,131	444,520	410,409	489,682	539,087	631,018	531,943	418,145	538,744
	Stocks on hand, end of month (gross weight)	1987	(NA)	671,213	510,987	400,686	420,263	631,851	551,709	616,474	615,096	538,987	670,870	831,506	703,619
		1986	(NA)	999,912	834,229	778,022	558,996	670,520	813,164	763,407	648,063	508,822	659,755	815,300	774,489
28742 15	Normal and enriched superphosphates:														
	Production (100% P_2O_5)	1987	64,044	4,487	5,743	5,948	6,013	5,679	3,460	2,739	5,169	3,646	6,797	7,234	7,129
		1986	65,192	2,841	4,830	5,067	4,490	2,507	1,246	4,255	5,691	(D)	(D)	9,574	9,958
	Shipments, including interplant transfers (100% P_2O_5)	1987	20,318	1,907	2,256	2,606	3,300	2,618	1,514	888	557	579	521	1,285	2,287
		1986	23,720	1,608	2,305	3,241	4,526	2,149	1,049	699	1,507	809	1,963	2,125	1,739
	Stocks on hand, end of month (gross weight)	1987	(NA)	40,827	40,256	35,361	21,219	18,228	15,242	17,495	20,527	20,238	25,328	21,228	14,441
		1986	(NA)	68,686	71,520	64,850	41,289	35,784	31,028	37,934	31,067	26,786	25,286	35,677	36,398
28742 41	Concentrated superphosphates (triple) (over 40% P_2O_5):														
	Production[2] (100% P_2O_5)	1987	956,010	77,398	82,247	85,364	92,627	84,856	80,172	79,566	74,667	75,775	80,817	72,240	70,281
		1986	971,899	47,889	64,150	84,810	101,576	84,141	65,579	65,861	92,564	100,559	107,242	80,695	76,833
	Shipments, including interplant transfers (100% P_2O_5)	1987	947,552	77,333	85,844	77,962	85,900	52,869	89,366	69,649	89,586	85,269	90,185	64,012	79,577
		1986	1,029,163	73,108	105,490	104,676	125,727	59,787	41,712	69,545	110,133	115,908	101,069	59,796	62,812
	Stocks on hand, end of month (gross weight)	1987	(NA)	136,234	108,915	98,498	85,401	147,896	128,134	156,825	122,462	109,071	97,904	125,009	109,404
		1986	(NA)	243,847	158,477	122,424	82,670	144,256	205,356	202,500	151,869	103,421	105,329	145,237	160,328
	Ammonium phosphates:														
28742 51	Monoammonium phosphates:														
	Production (100% P_2O_5)	1987	[1]962,613	52,936	97,174	102,928	118,714	[2]71,983	[2]48,246	[2]64,576	86,579	94,658	95,108	68,148	85,935
		1986	740,518	35,730	58,269	105,420	104,001	49,486	46,874	38,726	48,859	68,123	76,078	51,108	57,844
	Shipments, including interplant transfers (100% P_2O_5)	1987	[1]958,413	[2]81,521	78,180	121,315	109,741	60,220	41,914	52,834	[2]88,961	94,846	84,846	93,190	67,400
		1986	735,425	49,024	59,199	84,150	110,036	49,064	53,102	46,232	57,198	76,041	62,398	47,882	41,099
	Stocks on hand, end of month (gross weight)	1987	(NA)	54,532	95,100	54,500	64,039	63,654	66,923	76,675	79,495	80,167	93,447	45,518	70,705
		1986	(NA)	67,231	63,761	97,521	85,217	86,920	80,110	69,993	56,157	45,534	67,505	71,646	100,249
28742 52	Diammonium phosphates:														
	Production (100% P_2O_5)	1987	5,017,470	388,563	335,746	388,249	398,288	402,249	389,155	404,769	492,321	476,264	459,971	442,370	439,525
		1986	4,221,661	287,383	292,330	320,412	327,563	348,119	324,883	337,601	360,067	403,128	423,675	382,269	414,231
	Shipments, including interplant transfers (100% P_2O_5)	1987	5,102,961	403,136	409,286	421,224	389,090	343,553	424,712	402,557	494,733	516,442	418,272	378,417	501,539
		1986	4,234,116	297,623	309,211	341,404	406,772	323,174	312,659	369,281	354,454	429,063	358,399	303,317	428,759
	Stocks on hand, end of month (gross weight)	1987	(NA)	386,995	233,403	183,865	224,595	369,824	311,567	335,104	365,652	311,001	[a]435,218	616,571	472,420
		1986	(NA)	561,190	469,488	433,065	303,210	371,696	444,725	371,704	374,989	301,563	423,961	522,686	414,756
28742 55 61	Other ammonium phosphates and other phosphatic fertilizer materials):[3]														
	Production (100% P_2O_5)	1987	[4]104,862	12,723	5,180	9,456	14,966	(2)	(2)	(2)	8,123	6,101	7,924	6,962	11,055
		1986	108,854	9,875	10,172	11,551	10,684	9,062	8,155	6,628	9,771	(D)	(D)	(D)	(D)
	Shipments, including interplant transfers[1] (100% P_2O_5)[3]	1987	[4]98,028	(2)	6,637	11,571	20,218	9,463	3,940	3,072	(2)	10,490	6,698	4,609	4,775
		1986	103,786	10,795	7,149	13,548	13,070	10,346	2,487	3,925	15,795	(D)	8,114	(D)	4,335
	Stocks on hand, end of month (gross weight)[3]	1987	(NA)	52,625	33,313	28,462	25,009	32,249	29,843	30,375	26,960	18,510	18,973	23,180	36,679
		1986	(NA)	58,958	70,983	60,162	46,610	31,864	51,945	81,276	33,981	31,518	37,719	40,054	62,958

Note: The 1987 and 1986 monthly stocks on hand, end of month were originally published in the monthly Current Industrial Report Series, M28B, "Inorganic Fertilizer Materials and Related Products."

The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text for a discussion of estimation of missing reports): [a]20 percent or more of this item is estimated.

(D) Data withheld to avoid disclosing figures for individual companies. (NA) Not available.

[1]Total production and shipments figures strictly represent 12 months of data for "Monoammonium phosphates". It excludes "Other ammonium phosphates" and "Other phosphatic fertilizer materials".
[2]"Other ammonium phosphates" (28742 55) and "Other phosphatic fertilizer materials" (28742 61) are combined with "Monoammonium phosphates" (28742 51) to avoid disclosing figures for individual companies.
[3]"Other ammonium phosphates" (28742 55) is combined with "Other phosphatic fertilizer materials" (28742 61) to avoid disclosure of figures for individual companies.
[4]Total production and shipments figures for "Other ammonium phosphates and other phosphatic fertilizer materials" represent 12 months of data for these two combined categories.

Table 10. PRODUCTION AND STOCKS OF SULFURIC ACID, BY PROCESS, BY MONTH: 1987 AND 1986

(Thousands of short tons of 100% H_2SO_4)

Month and year	Production					Spent acid used in fortification[2]	Stocks (gross) at producing plants at end of period
	Sulfuric acid, gross, new and fortified			New acid[1]	Sulfuric acid produced through decomposition		
	Total	Oleum grades	Other than oleum grades				
1987							
Total	39,234.7	1,641.1	37,593.6	36,674.0	2,380.1	180.6	689.3
January	2,991.0	126.1	2,864.9	2,810.4	166.0	14.6	830.9
February	2,849.2	124.5	2,724.7	2,684.7	147.3	17.2	785.5
March	3,351.4	145.5	3,205.8	3,143.3	191.1	17.0	755.5
April	3,425.7	130.1	3,295.6	3,203.9	203.9	17.9	702.7
May	3,225.7	145.5	3,080.2	3,006.9	202.4	16.4	734.2
June	2,999.5	109.0	2,890.5	2,774.3	206.8	18.4	815.4
July	3,140.5	150.1	2,990.4	2,913.2	214.6	12.7	683.8
August	3,470.7	143.4	3,327.3	3,233.3	226.8	10.6	700.9
September	3,395.1	137.3	3,257.8	3,171.9	214.1	9.1	644.3
October	3,485.4	157.2	3,328.2	3,255.2	214.9	15.3	685.2
November	3,278.1	127.0	3,151.1	3,074.8	188.6	14.7	659.0
December	3,622.4	145.4	3,477.0	3,402.1	203.6	16.7	689.3
1986							
Total	35,993.4	1,588.4	34,405.0	33,517.6	2,284.1	191.7	791.8
January	2,547.7	128.7	2,419.0	2,349.4	176.7	21.6	904.3
February	2,673.7	125.2	2,548.5	2,480.9	175.6	17.2	858.4
March	3,179.0	141.9	3,037.1	3,000.0	162.5	16.5	823.6
April	3,140.2	131.5	3,008.7	2,933.5	193.2	13.5	779.1
May	3,033.2	179.5	2,853.7	2,810.7	208.1	14.4	800.2
June	2,849.3	114.7	2,734.6	2,647.5	187.9	14.5	786.8
July	2,834.0	127.3	2,706.7	2,613.1	205.5	15.4	705.2
August	2,812.7	120.7	2,692.0	2,582.1	213.0	17.6	731.8
September	3,180.8	125.9	3,054.9	2,960.5	205.1	15.2	708.2
October	3,384.0	138.8	3,245.2	3,156.8	213.2	14.0	700.9
November	3,060.0	124.8	2,935.2	2,876.1	166.9	17.0	772.7
December	3,298.8	129.4	3,169.4	3,107.0	177.0	14.8	791.8

Note: Detail may not add to total due to independent rounding.

[1] Represents gross production of sulfuric acid less acid produced through decomposition and spent acid used in fortification.
[2] Spent acid fortified by the addition of sulfur trioxide.

Table 11. PRODUCTION, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF INORGANIC FERTILIZER CHEMICALS: 1987 AND 1986

(Quantity in short tons; value in thousands of dollars)

Product code	Product description	Production (quantity)	Exports of domestic merchandise[1]		Percent exports to production (quantity)	Imports for consumption[2]		Apparent consumption[4] (quantity)	Percent imports to apparent consumption (quantity)
			Quantity	Value		Quantity	Value[3]		
	1987								
28731 30 28731 32	Ammonia, synthetic anhydrous, fertilizer use	14,618,329	1,190,938	(NA)	8.1	2,830,176	262,744	16,257,567	17.4
28731 50	Ammonium nitrate, original solution	6,546,683	309,162	(NA)	4.7	306,855	30,846	6,544,376	4.7
28731 65 28731 66 28731 67 28731 73	Nitrogen solutions	2,384,548	777,708	(NA)	32.6	514,690	32,854	2,121,530	24.3
28731 56 28731 58	Ammonium sulfate	2,189,075	761,338	(NA)	34.8	285,169	20,929	1,712,906	16.6
28732 --	Urea	7,433,423	1,050,216	(NA)	14.1	2,500,986	222,277	8,884,193	28.2
28741 --	Phosphoric acid	10,685,095	(D)	(NA)	(D)	26,174	10,047	(D)	(D)
28742 15	Normal and enriched superphosphate[5]	64,044	414	(NA)	0.6	3,279	676	(NA)	(NA)
28742 41	Concentrated superphosphate[5]	956,010	1,564,960	(NA)	163.7	52,743	6,591	(NA)	(NA)
28742 52	Diammonium phosphates[5]	5,017,470	6,322,261	(NA)	126.0	28,921	5,209	(NA)	(NA)
28742 51	Monoammonium phosphates[5]	1,067,475	616,246	(NA)	57.7	124,567	19,404	(NA)	(NA)
28742 55	Other ammonium phosphates[5]								
28742 61	Other phosphatic fertilizer materials[5]								
28193 --	Sulfuric acid, gross	39,234,700	107,853	5,844	0.3	844,610	24,766	39,971,457	2.1
	1986								
28731 30 28731 32	Ammonia, synthetic anhydrous, fertilizer use	13,201,886	645,642	(NA)	4.9	2,491,415	295,814	15,047,659	16.6
28731 50	Ammonium nitrate, original solution	6,091,125	513,447	(NA)	8.4	401,816	39,982	5,979,494	6.7
28731 65 28731 66 28731 67 28731 73	Nitrogen solutions	2,275,078	97,463	(NA)	4.2	334,026	28,376	2,511,641	13.3
28731 56 28731 58	Ammonium sulfate	2,080,106	1,159,388	(NA)	55.7	291,559	22,990	1,212,277	24.1
28732 --	Urea	6,263,872	518,909	(NA)	8.3	3,478,299	341,293	9,223,262	37.7
28741 --	Phosphoric acid	9,577,639	(D)	(NA)	(D)	27,571	10,576	(D)	(D)
28742 15	Normal and enriched superphosphate[5]	65,192	4,398	(NA)	6.7	885	240	(NA)	(NA)
28742 41	Concentrated superphosphate[5]	971,899	1,359,331	(NA)	139.9	663	126	(NA)	(NA)
28742 52	Diammonium phosphates[5]	4,221,681	4,541,847	(NA)	107.6	34,724	5,782	(NA)	(NA)
28742 51	Monoammonium phosphates[5]	849,372	529,538	(NA)	62.3	109,703	17,261	(NA)	(NA)
28742 55	Other ammonium phosphates[5]								
28742 61	Other phosphatic fertilizer materials[5]								
28193 --	Sulfuric acid, gross	35,993,400	73,126	4,620	0.2	961,717	32,016	36,881,991	2.6

Note: For comparison of SIC product code numbers, TSUSA import numbers, and Schedule B export numbers, see table 12.

(D) Data withheld to avoid disclosing figures for individual companies. (NA) Not available.

[1] Source: Bureau of the Census report EM 546, U.S. Exports.
[2] Source: Bureau of the Census report IM 245, U.S. Imports for Consumption.
[3] This dollar value represents c.i.f. (cost, insurance, and freight) value at the first port of entry in the United States plus calculated import duty.
[4] Apparent consumption is derived by subtracting exports from manufacturers' production plus imports. Apparent consumption does not include any adjustments for changes in inventories.
[5] The "Superphosphates and other phosphatic fertilizer materials" production figures are collected and published on a 100% P_2O_5 basis, while the import and export figures are collected and published on a gross weight basis. Due to the difference on the basis, production, import and export data are not comparable.

Table 12. COMPARISON OF SIC PRODUCT CODE NUMBERS, TSUSA IMPORT NUMBERS, AND SCHEDULE B EXPORT NUMBERS

Product code	Import number	Export number	Product code	Import number	Export number
28731 30 28731 32	480.6540	480.6540	28741 --	416.3000 480.7010	416.3000 480.7015 480.7025
28731 50	417.3000 480.6510	417.3000 480.6510	28742 15	480.7030	480.7030
			28742 41	480.7050	480.7050
28731 65 28731 66 28731 67	480.6550	480.6550	28742 52	480.8005	480.8005
			28742 51 28742 55	480.8015	480.8010 480.8018
28731 56 28731 58	417.3800 480.6530	417.3800 480.6530	28742 61	480.7070	480.7075
28732 --	480.3000	480.3000	28193 00	416.3500	416.3500

DESCRIPTION OF SURVEY

Scope of Survey. This survey covers establishments producing inorganic fertilizer chemicals, phosphatic fertilizer materials, and sulfuric acid, except spent sulfuric acid recovered by hydrolysis or evaporation.

Survey Methodology. The statistics in this publication were collected by mail on Bureau of the Census annual Form MA28B, Inorganic Fertilizer Materials and Related Products. The survey panel includes all known producers of inorganic fertilizer materials, phosphatic fertilizer materials, and sulfuric acid, approximately 270 establishments.

Reliability of Data. Survey error may result from several sources: (1) inability to obtain information about all cases in the survey; (2) response errors; (3) definitional difficulties; (4) differences in the interpretation of questions; (5) mistakes in recording or coding the data obtained; and (6) other errors of collection, response, coverage, and estimation for missing data. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is due to imputing data for nonrespondents, for late reporters, and for data which failed logic edits. Missing figures are imputed based on yearly movements shown by reporting firms. Imputation generally is limited to a maximum of 5 percent for any one data cell. Figures with imputation rates greater than 5 percent are footnoted.

The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual yearly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is not precisely known, but is assumed to be small. The degree of uncertainty regarding the accuracy of the published data, however, increases as the percentage of imputation increases. Figures with imputation rates above 5 percent should be used with caution.

Revisions to Previous Period Data. Statistics for previous years may be revised as the result of corrected data from respondents, including the receipt of late reports for which imputations were made as described above. Figures which have been revised by more than 5 percent from previously published figures are indicated by footnotes.

Revisions may include changes to prior period data resulting from reconciliation of the results of this survey with the 1986 Annual Survey of Manufactures to correct differences in reported data between the two series and to identify and verify new establishments included in the scope of this survey. Table 4 presents a comparison by census product class of data from the two series following the reconciliation.

Adjustment for Price Change. All dollar figures included in this publication are in current dollars; i.e., they have not been adjusted for price change.

EXPLANATION OF TERMS

Quantity and Value of Shipments. The figures on quantity and value of shipments represent physical shipments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges, and returns. Shipments to a company's own branches are assigned the same value as comparable sales to unaffiliated customers; i.e., the value includes an appropriate allocation of company overhead and profit. Products bought and resold without further manufacture are excluded.

Production. Data shown for production represent total quantity of each product produced, including quantity consumed in the plant or sold or transferred to other plants or warehouses of the same company. Products produced under toll agreements are reported by the establishment which owns raw material from which the products are produced. The data provide a measure of total production, but do not necessarily indicate amounts entering the market since, in some cases, figures are included for material produced as an intermediate process in the production of other end products.

Consumption. Consumption data includes only quantities produced and consumed in the same plant.

Sulfuric Acid. Represents quantities produced from all sources which are available for sale except for the amounts recovered by processes other than fortification. Includes amounts produced from the oxidation of sulfur or sulfur bearing material and from the decomposition of spent acids. Excludes sulfuric acid recovered by hydrolysis and evaporation and intermediate production where sulfuric acid is not withdrawn from the system.

Spent Acid. Sulfuric acid that has been used in manufacturing processes, such as metal treating on crude oil processing, and is reduced in strength or purity. This includes sludge acid, alkylation acid, and other spent acids.

Fortified Spent Acid. Spent acid that has been strengthened by the addition of sulfur trioxide in contact units.

Decomposed Spent Acid. Spent acid, typically alkylation and sludge acids, that has been decomposed to sulfur dioxide through thermal processes.

Normal and Enriched Superphosphates. All grades containing less than 40 percent available phosphoric oxide (P_2O_5).

Concentrated (Triple) Superphosphates. Grades containing 40 percent or more phosphoric oxide (P_2O_5).

Ammonium Phosphates. Includes a group of nitrogen-phosphorous materials monoammonium phosphates and diam monium phosphates, mixtures of the two, or combinations with ammonium nitrate or ammonium sulfate. Ammonium polyphosphate is also included.

Monoammonium Phosphates. Chemically processed nitrogenphosphorus materials containing 50 percent or more primary nutrients and having a phosphate to nitrogen ratio of 3 to 1 or greater.

Diammonium Phosphates. Chemically processed nitrogenphosphorus materials comprising fertilizer grades containing 18 to 21 percent nitrogen (N), and 46 to 54 percent phosphoric oxide (P_2O_5).

Other Ammonium Phosphates. Chemically processed nitrogenphosphorus materials, solid and fluid, including mixtures of monoammonium, diammonium, and ammonium sulfate. Excludes ammonium phosphate produced in combination with potash salts to make a complete mixture.

Other Phosphatic Fertilizer Materials. Chemically processed materials such as ammonium phosphate potash mixtures, nitrophosphates, calcium metaphosphates, sodium phosphates, wet base goods made by treating phosphate rock and some organic nitrogenous material with sulfuric acid.

COMPARISON OF EXPORT, IMPORT, AND DOMESTIC OUTPUT DATA

The Standard Industrial Classification (SIC) system used for domestic output and the statistical export and import commodity classifications were developed independently. This results in considerable difficulty in comparing the three types of data for many commodity areas. The domestic output classification is based on type of industry; on the other hand, the export and import classification system is more materials oriented. Also, there are a substantial number of imported commodities which have no comparable domestic output classification. The relationships shown in this report should be considered only as approximations, since, in addition to the problems mentioned above, there are also the following problems affecting the comparability of the three sets of data.

Valuation. There are different methods of valuation for the three types of data:

- *Domestic Output.* Valued at the point of production. It includes the net sales price, f.o.b. plant, after discounts and allowances, exclusive of freight charges and excise taxes.
- *Exports.* Valued at the point of exportation. It includes the selling price, or cost if not sold, and inland freight, insurance and other charges to the export point.

  Estimated producers' values of exports have also been developed. These values more closely approximate the values reported for domestic output because they exclude freight, insurance, and other charges applied from the producing plant to the export point.
- *Imports.* Valued at the first port of entry in the United States. It includes c.i.f. (cost, insurance, and freight), duty, and other charges to the import point.

Duplication in Quantity and Value of Output. Because producers' shipments of some commodities may be used as materials for incorporation into other commodities, combinations of data for such commodities may contain a certain amount of duplication. Thus, percentages of exports to output or imports to apparent consumption (output plus imports minus exports) at four-digit or broader levels may be understated. Where duplication is known to be substantial, the output data are appropriately noted in the table.

Low-Value Export and Import Transactions. Detailed commodity information is not included for individual export shipments valued at not more than $1,500. Generally, detailed commodity information is not included for individual import shipments valued at not more than $1,000. For textiles and textile products, gloves, footwear, and miscellaneous rubber and plastics products, detailed commodity information is not included for individual import shipments valued at not more than $250. This is believed to have only negligible effects on the statistics for the bulk of the commodities.

Manufacturers' Shipments, Not Specified by Kind. The value of manufacturers' shipments at the four-digit industry level often includes a small amount which is not distributed among the individual five-digit product classes. Export and import percentages at the more detailed levels might, therefore, be slightly overstated.

Time Lag Between Output and Exports. There will be a lag between the time a commodity is produced or shipped by the producer and the time it is actually exported, especially when intermediaries (wholesalers, exporters, etc.) are involved. Ordinarily, this type of discrepancy is insignificant in annual figures.

"Direct" vs "Total" Commodity Exports and Imports. Export and import data do not include materials which are incorporated into other more finished products and exported or imported in finished form. Thus, by showing only direct exports and imports, the relation of exports to output and imports to apparent consumption for intermediate products is considerably understated.

Used Commodities. With a few exceptions, used or rebuilt commodities are classified in the same import or export codes as is new merchandise. Percentages are thus overstated to the extent that used or rebuilt products are significant in trade.

Geographic Area of Coverage. Import and export data reflect the movement of merchandise into and out of U.S. foreign trade zones, the U.S. Virgin Islands, and the U.S. customs territory (includes the 50 States, the District of Columbia, and Puerto Rico).

HISTORICAL NOTE

Data on inorganic fertilizer chemicals and sulfuric acid have been collected by the Bureau of the Census since 1941. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959), available at your local Federal Depository Library. A list of these libraries may be obtained from the Bureau of the Census regional office in your area:

Office	Telephone
Atlanta, Georgia	(404) 347-2271
Boston, Massachusetts	(617) 223-2327
Charlotte, North Carolina	(704) 371-6142
Chicago, Illinois	(312) 353-6251
Dallas, Texas	(214) 767-0621
Denver, Colorado	(303) 236-2200
Detroit, Michigan	(313) 226-7742
Kansas City, Kansas	(816) 374-4601
Los Angeles, California	(213) 209-6616
New York, New York	(212) 264-3860
Philadelphia, Pennsylvania	(215) 597-4920
Seattle, Washington	(206) 442-7828

Historical data are also available on microfiche. For further information, contact the Bureau of the Census, Data User Services Division, (301) 763-4100.

RELATIONSHIP BETWEEN M28B AND MA28B

Data on production of inorganic fertilizer chemicals, phosphatic fertilizer materials, and sulfuric acid are published monthly in M28B, *Inorganic Fertilizer Materials and Related Products.* Although the product descriptions are the same on the monthly and annual surveys, the statistics shown in the annual report may differ from those published in the monthly report for the following reasons:

a. Figures supplied by the same company may differ for the two reports even though the product descriptions and reporting basis are the same.

b. The monthly figures received from many firms are estimated since book records are frequently not available. These data sometimes differ significantly from reported annual data for the same establishments.

c. For establishments reporting on the annual survey but not on the monthly, the monthly data are estimated. The sum of these monthly estimates may vary substantially from actual data.

Where these discrepancies between the monthly and annual figures occur, the monthly data are adjusted by a method which preserves the month-to-month trend while correcting the level. These revised monthly data are shown in table 9.

RELATED REPORTS

The Bureau of the Census also publishes the following related reports:

Current Industrial Reports

Series	Frequency	Title
M28A	Monthly	*Inorganic Chemicals*
M28B	Monthly	*Inorganic Fertilizer Materials and Related Products*
M28C	Monthly	*Industrial Gases*
MA28A	Annually	*Inorganic Chemicals*
MA28C	Annually	*Industrial Gases*

Other Industry Reports

M3-1	Monthly	*Manufacturers' Shipments, Inventories, and Orders*
(AS)	Annually	Annual Survey of Manufactures (ASM)
(MC)	Quinquennially	Census of Manufactures

Foreign Trade Reports

EM 546 FT 446	Monthly Annually	*U.S. Exports—Schedule B—Commodity by Country*
IM 146 FT 246	Monthly Annually	*U.S. Imports for Consumption—TSUSA—Commodity by Country*

CONTACTS FOR DATA USERS

Subject Area	Contact	Phone Number
Current Industrial Report MA28B	Gisela B. Hoffman	(301) 763-7807
Classification System Comparability	James Kristoff (ESD)	(301) 763-1935
Foreign Trade	Trade Data Inquiries Staff (FTD)	(301) 763-5140
Census/ASM	Allen Foreman	(301) 763-5531
To order a Current Industrial Report	Superintendent of Documents (GPO)	(202) 783-3238
To subscribe to a Census Bureau publication	Superintendent of Documents (GPO)	(202) 275-3054
Industry and Trade Administration	Frank Maxey	(202) 377-0128
Department of Agriculture	Homer Stroike	(202) 566-6984

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